Fig. 1

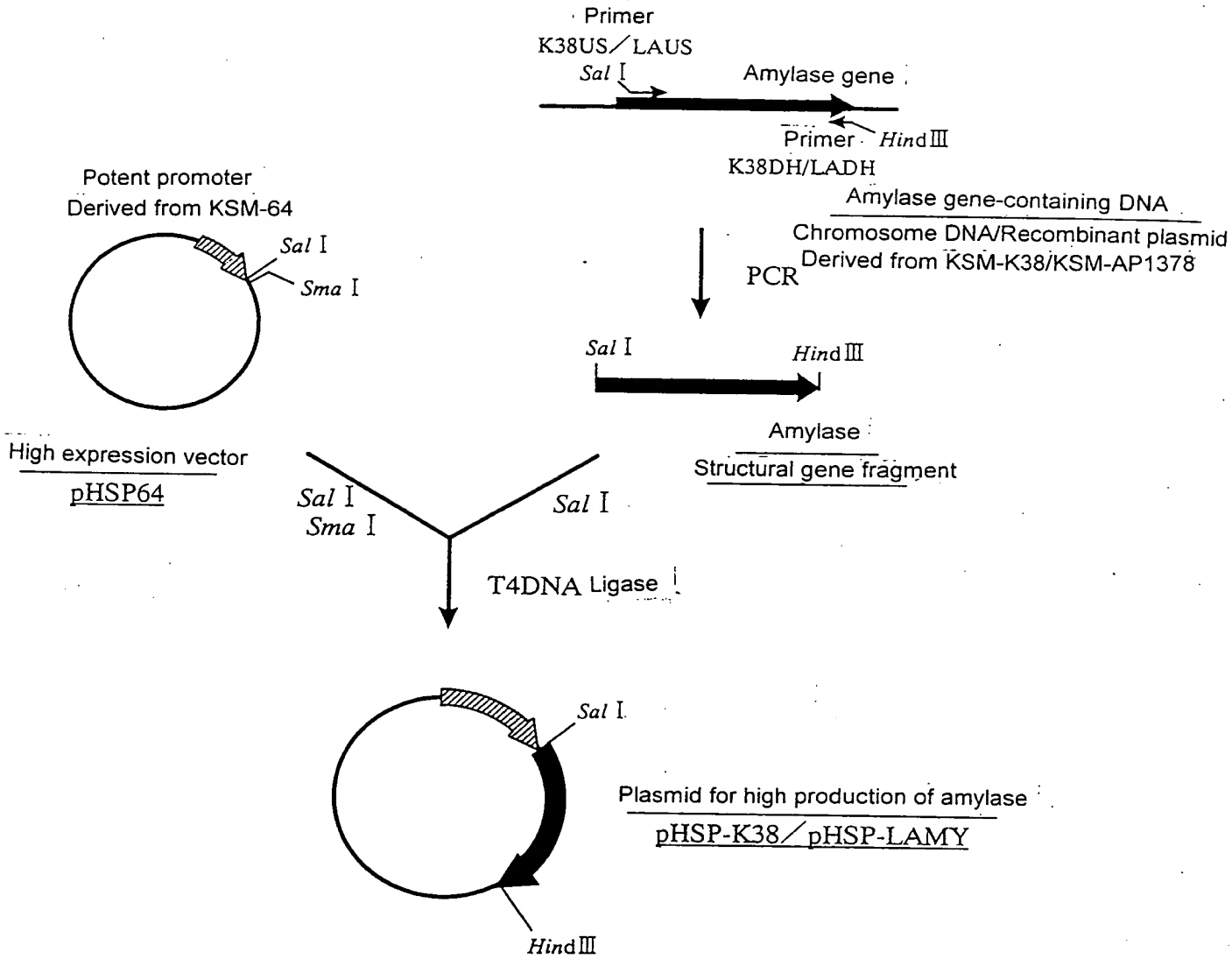

Primer
K38US／LAUS
Sal I
Amylase gene
Primer
Hind III
K38DH/LADH
Amylase gene-containing DNA
Chromosome DNA/Recombinant plasmid
Derived from KSM-K38/KSM-AP1378
PCR
Potent promoter
Derived from KSM-64
Sal I
Sma I
Sal I
Hind III
Amylase
Structural gene fragment
High expression vector
pHSP64
Sal I
Sma I
Sal I
T4DNA Ligase
Sal I
Hind III
Plasmid for high production of amylase
pHSP-K38／pHSP-LAMY

Fig. 2

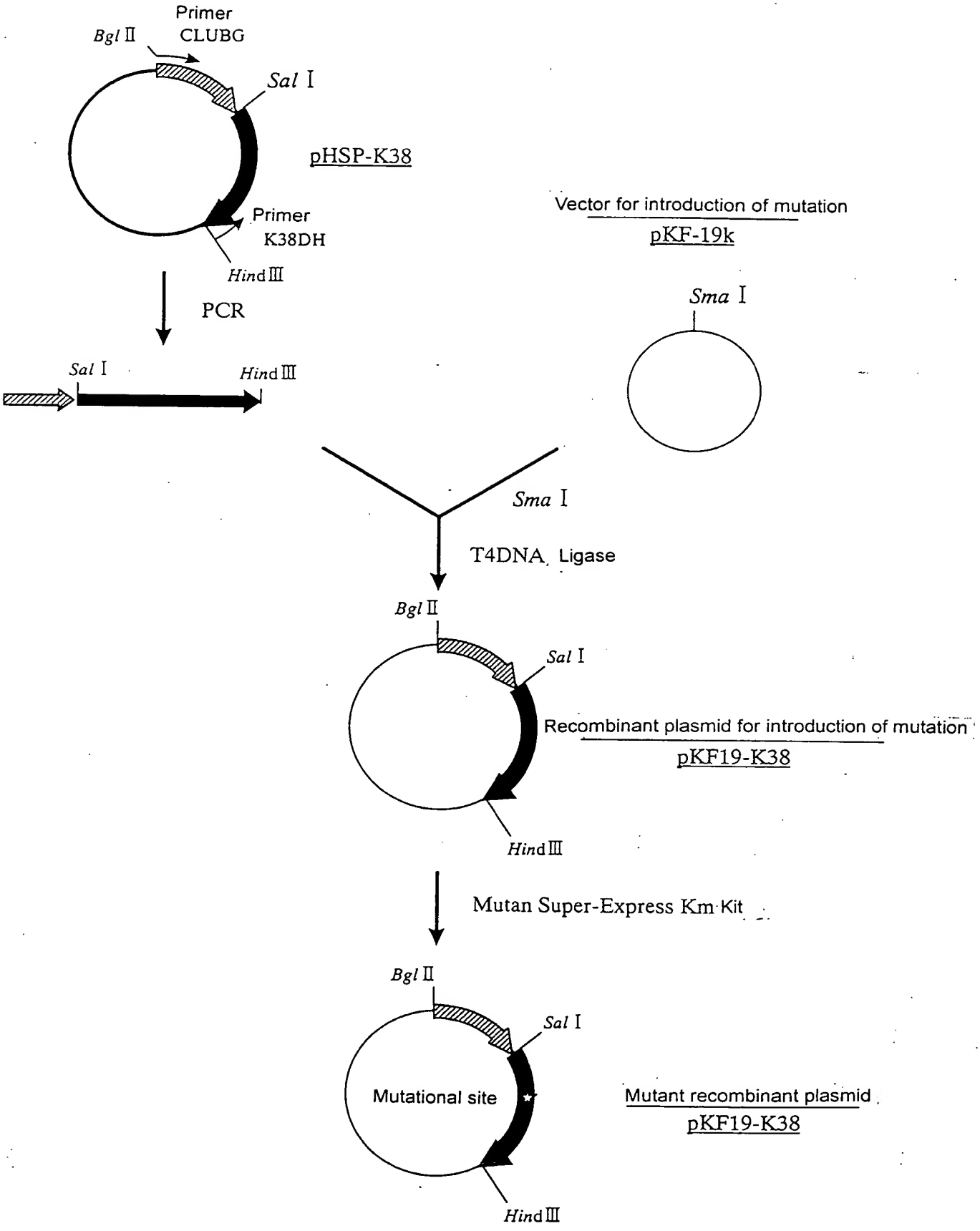
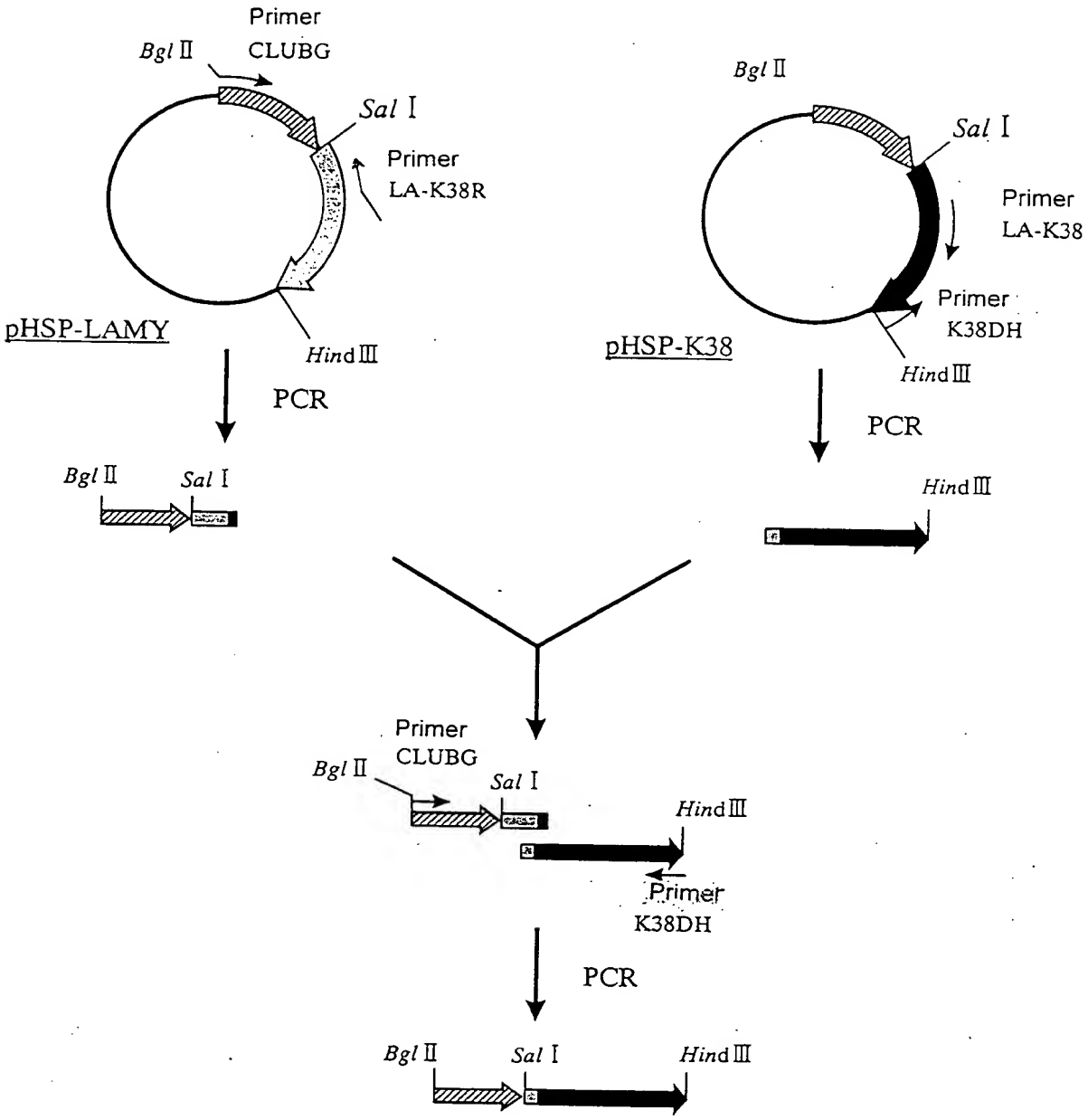

Primer
CLUBG
Bgl II
Sal I
pHSP-K38
Primer
K38DH
Hind III
PCR
Sal I
Hind III
Vector for introduction of mutation
pKF-19k
Sma I
Sma I
T4DNA Ligase
Bgl II
Sal I
Recombinant plasmid for introduction of mutation
pKF19-K38
Hind III
Mutan Super-Express Km Kit
Bgl II
Sal I
Mutational site
Mutant recombinant plasmid
pKF19-K38
Hind III

Fig. 3


Primer
CLUBG
Bgl II
Sal I
Primer
LA-K38R
pHSP-LAMY
Hind III
PCR
Bgl II
Sal I
Bgl II
Sal I
Primer
LA-K38
Primer
K38DH
pHSP-K38
Hind III
PCR
Hind III
Primer
CLUBG
Bgl II
Sal I
Hind III
Primer
K38DH
PCR
Bgl II
Sal I
Hind III